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REMARKS

In the Non-Final Office Action of January 4, 2005, claims 1-29 are pending. Claims 19-29 are herein canceled to affirm the election of Group I having claims 1-18. Claims 1 and 16 are independent claims from which the remaining claims 2-15, 17-18, and newly added claim 30 depend, respectively, therefrom. Claims 1-2 and 16 have been amended.

The Office Action states that claims 8-9 and 12-14 are allowable if rewritten in independent form to include all of the limitations of the base claim including that of any intervening claims. Claims 8-9 and 12 are herein rewritten in independent form. Applicants submit that since claims 13-14 depend from now allowable claim 12, that they are also allowable as drafted.

Claims 1-7, 10-11, and 15-18 stand rejected under 35 U.S.C. 102(e) as being anticipated by Chidester et al. (U.S. Patent No. 6,438,207).

Amended claim 1 recites the limitations of a cathode having an aperture and a backing member. The backing member is differentially biased relative to the aperture and contributes in formation of an electron beam or in the formation of electrons.

Amended claim 16 recites similar limitations as that of claim 1 and includes the limitations of a differentially biased cathode having an aperture that is differentially biased relative to a backing member.

The Office Action states that the Chidester discloses a backing member (20) that contributes in formation of an electron beam and in so doing refers to col. 8, lines 52-64 of Chidester. Applicants, respectfully, traverse. In col. 8, lines 52-64, Chidester discloses the use of a support base 20 for the support of components that are disposed thereon. The components that are disposed on the base 20 contribute in the formation of the electron beam not the base 20. In lines 61-65, Chidester states that a means is positioned on the base 20 for emitting electrons and the means is preferably a filament coil 22. Thus, the base 20 does not contribute to electron formation, but is rather used as a mounting fixture.

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Also, Applicants submit that Chidester does not disclose a differentially biased cathode having a backing member that is differentially biased relative to an aperture to contribute in electron formation. Chidester discloses a cathode housing, which includes the base 20 and a cap structure 54. The cap structure 54 has an aperture 50. The cap structure 54 is disposed on and is in contact with the base 20. The base 20 and the cap structure 54 are formed of metal or metal alloy, which are conductive. Thus, the base 20 and the aperture 50 are at the same voltage potential, unlike that claimed. Since the base 20 and the aperture 50 are at the same voltage potential, the base 20 does not contribute to electron formation.

In addition, Chidester teaches away from the differential biasing between a backing member and an aperture. Chidester in col. 9, line 67, to col. 10, lines 1-2, states that it is preferred that the cap structure 54 and the cathode cup 30 are at substantially the same voltage potential. The cathode cup 30 is in contact with or integrally formed with the base 20. Thus, the cap structure 54 and aperture 50 are at the same voltage potential as the base 20.

In order for a reference to anticipate a claim the reference must teach or suggest each and every element of that claim, see MPEP 2131 and *Verdegrad Bros. V. Union Oil Co. of California*, 814 F.2d 628. Thus, since Chidester fails to teach or suggest each and every element of claims 1 and 16, they are novel, nonobvious, and are in a condition for allowance, at least in view of Chidester. Therefore, since claims 2-7, 10-11, 15, 17-18, and 30 depend from claims 1 and 16, they are also novel, nonobvious, and allowable for at least the same reasons.

Claims 1 and 3-5 stand rejected under 35 U.S.C. 102(b) as being anticipated by Evain et al. (U.S. Patent No. 5,125,019).

The Office Action states that Evain discloses a backing member (23) that contributes to the formation of an electron beam. Although the backing member 23 is used to focus an electron beam, the backing member is not differentially biased relative to an aperture. The apparatus of Evain does not include an aperture. The electron beam of Evain is directed from the emitter

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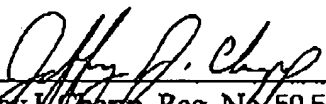
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22 to the anode 24 and does not pass through an aperture. Thus, Evain clearly does not include an aperture that is differentially biased relative to a backing member. Therefore, Evain also fails to teach or suggest each and every element of claim 1 and as such claim 1 is novel, nonobvious, and is in a condition for allowance. Applicants submit that since claims 3-5 depend from claim 1, that they are also novel, nonobvious, and are in a condition for allowance for at least the same reasons.

In light of the amendments and remarks, Applicants submit that all the rejections are now overcome. The Applicants have added no new matter to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,

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